

DUE DATE:

OMB No.

REPORT FOR CALENDAR YR 2002U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUSFORM **MA332Q****CURRENT INDUSTRIAL REPORTS**ANTI-FRICTION BEARINGS
{Shipments}If you have questions regarding this
report form please contact:
G. PEEBLES-BUTLER EX6
1{800}201-4647**EMPLOYER IDENTIFICATION (EI)
NUMBER.** Identification number
used on Employer's Quarterly
Federal Tax Return (U.S. Treasury
Department Form 941) **(Enter if
not shown, correct if wrong.)****CONTACT PERSON** (Enter information
if not shown, correct if wrong.)
Name **ATTN: CONTROLLER**

Area code Number -

Fax number

The 8-digit number that appears above indicates that the Office of Management and Budget has approved this survey. If that number is not displayed, do not complete this form. **YOUR RESPONSE IS REQUIRED BY LAW** (Title 13, United States Code). By section 9 of the same law, **YOUR REPORT IS CONFIDENTIAL**. It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

**In correspondence pertaining to this establishment's report,
please refer to the 11 digit Identification Number (ID)**

(Please correct any error in name and address including ZIP Code)

PART I FOR EACH ITEM LISTED BELOW, ENTER FIGURES OR "0" for current period. (The figures shown in the shaded areas were reported for the previous two periods.) PLEASE REFER TO THE INSTRUCTIONS BEFORE COMPLETING THIS REPORT FORM.

| Item (Product code - Description) | Item code | Report period | Total Domestic Quantity Number of units | Shipments & Export Value \$1,000 | {Do not report imported or purchased products on which your company performed no further fabrication or significant assembly.} | | | |
|---|--------------|------------------|---|---|--|---|---|---|
| 3329911001-Ball bearings, comp. annul., grnd or precis. single-row conrad, minia- ture regular {ABEC 1 and 3} | 2101 | 2002 | 1 | 2 | 3 | 4 | 5 | 6 |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911002-Ball bearings, comp. annul., grnd or precis. single-row conrad, minia- ature precis. {ABEC 5 & up} | 2102 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911003-Ball bear., com., annular, grd. or prec., single row conrad, other regular, 9mm O.D. through 30mm O.D. | 2103 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911004-Ball bear., com., annular, grnd. or prec., single row conrad, other reg. over 30mm O.D. through 52mm O.D. | 2104 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |

* Figures not received when form was prepared. **PLEASE ENTER**, if not previously submitted.

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

| Item (Product code - Description) | Item code | Report period | Total Domestic Quantity Number of units | Shipments & Export Value \$1,000 | {Do not report imported or purchased products on which your company performed no further fabrication or significant assembly.} | | | |
|--|--------------|------------------|---|---|--|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 3329911005-Ball bear.,comp., annular,grnd.or prec.,single row conrad, other reg., over 52mm O.D. through 100mm O.D. | 2105 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911007-Ball bear.,comp., annular,grnd.or prec.,single row conrad, other regular, over 100mm O.D. | 2107 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911009-Ball bear.,com., annular,grnd.or prec.,single row conrad, other precision, 9mm O.D. through 30mm O.D. | 2109 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911011-Ball bear.,comp., annular,grnd.or prec.,single row conrad,other precision, over 30mm O.D.thru 52 mm.O.D | 2111 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911012-Ball bear.,comp., annular,grnd.or prec.,single row conrad,other prec.,over 52mm O.D. through 100mm O.D | 2112 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911013-Ball bear.,comp., annular,grnd.or precision, single row conrad, other precision,over 100mm O.D. | 2113 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911014-Ball bearings, complete, annular,ground or precision single-row maximum capacity type | 2114 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911018-Ball bearings, complete, integral shaft & integral spindle ball bearings | 2118 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911020-Ball bearings, complete, annular, ground or precision, double-row | 2120 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911019-Ball bearings, complete, annular, ground or precision, angular contact, regular | 2121 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

| Item (Product code - Description) | Item code | Report period | Total Domestic Quantity Number of units | Shipments & Export Value \$1,000 | {Do not report imported or purchased products on which your company performed no further fabrication or significant assembly.} | | | |
|--|--------------|------------------|---|---|--|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 3329911023-Ball bearings, complete, annular, ground or precision, angular contact, precision | 2123 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911024-Ball bearings, complete, annular, Other ground or precision bearings {ABEC 1 and up} | 2124 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911027-Ball bear., comp- lete, annular, ground or precision ground bearings of less than ABEC 1 precision | 2126 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911029-Ball bearings, complete, annular, unground {less than ABEC 1} | 2128 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911033-Thrust ball bearings, complete - ground | 2133 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911035-Thrust ball bearings, complete - unground | 2135 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911055-Other ball bearings | 2155 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329911000-Total, ball bear- ings, complete, unmounted sum of codes {2101-2155} | 2199 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329913032-Tapered roller bearings - cup and cone assemblies shipped as a set- incl cups & cones, unmounted | 2232 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329913033-Tapered roller bearings - cups shipped separately - including cups, unmounted | 2233 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

| Item (Product code - Description) | Item code | Report period | Total Domestic | Shipments & Export | {Do not report imported or purchased products on which your company performed no further fabrication or significant assembly.} | | | |
|---|--------------|------------------|--------------------------------|-----------------------|--|---|---|---|
| | | | Quantity Number of units | Value \$1,000 | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 3329913034-Tapered roller bearings - cone assemblies shipped separately - including cones, unmounted | 2234 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329913000-Total, tapered roller bearings {sum of codes 2232-2234} including cups & cones, unmounted | 2299 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915011-Cylindrical roller bearings - regular {ABEC 1 and 3} | 2311 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915012-Cylindrical roller bearings - precision {ABEC 5 and up} | 2312 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915024-Spherical roller bearings, including hour- glass and barrel - single-row | 2324 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915025-Spherical roller bearings, including hour- glass and barrel - double-row | 2325 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915041-Needle roller bearings | 2341 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915093-Other roller bearings, n.e.c. | 2393 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329915000-Total, cylindri- cal, spherical, needle, and other roller bearings {sum of codes 2311-2393} | 2399 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329917017-Mounted bearings, except plain - ball bear- ings, unit and/or split- mounted | 2417 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

| Item (Product code - Description) | Item code | Report period | Total Domestic Quantity Number of units | Shipments & Export Value \$1,000 | {Do not report imported or purchased products on which your company performed no further fabrication or significant assembly.} | | | |
|---|--------------|------------------|---|---|--|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 3329917053-Mounted bearings, except plain - roller, unit-mounted | 2453 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329917055-Mounted bearings, except plain - roller, split-mounted | 2455 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329917000-Total, mounted bearings, except plain {sum of codes 2417-2455} | 2499 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| | | | Total Domestic | Shipments & Export | Quantity produced for all purposes | {Do not report imported or purchased products on which your co. performed no further fabrication or significant assembly} | | |
| | | | Quantity 1,000 units | Value \$1,000 | 1,000 units | | | |
| PARTS & COMPONENTS FOR BALL & ROLLER BEARINGS, INCL. BALLS & ROLLERS, SOLD SEP. {EXCEPT CUPS & CONES} | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3329919011-Balls {thousands of units} | 2911 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329919021-Other antifriction ball bearing components & parts {see manual for inclusions} {value only} | 2921 | 2002 | XXXXX | | XXXXX | | | |
| | | 2001 | XXXXX | | XXXXX | | | |
| | | 2000 | XXXXX | | XXXXX | | | |
| 3329919031-Rollers {thousands of units} | 2931 | 2002 | | | | | | |
| | | 2001 | | | | | | |
| | | 2000 | | | | | | |
| 3329919035-Roller bearing parts & compon. {ex. rollers for tapered roller bearings {ex. cup & cone assembly} | 2942 | 2002 | XXXXX | | XXXXX | | | |
| | | 2001 | XXXXX | | XXXXX | | | |
| | | 2000 | XXXXX | | XXXXX | | | |

CURRENT INDUSTRIAL REPORTS – Continued

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PART I – Continued

| Item (Product code – Description) | Item code | Report period | Total Domestic | Shipments & Export | Quantity produced for all purposes | {Do not report imported or purchased products on which your co. performed no further fabrication or significant assembly} | | | |
|--|--------------|------------------|-------------------|-----------------------|---|---|---|---|--|
| | | | Quantity | Value | | | | | |
| | | | 1,000 units | \$1,000 | 1,000 units | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | |
| 3329919036-Roller bearing parts & components {except rollers} for cylindrical roller bearings | 2944 | 2002 | XXXXX | | XXXXX | | | | |
| | | 2001 | XXXXX | | XXXXX | | | | |
| | | 2000 | XXXXX | | XXXXX | | | | |
| 3329919037-Roller bearing parts & components {except rollers} for spherical roller bearings | 2946 | 2002 | XXXXX | | XXXXX | | | | |
| | | 2001 | XXXXX | | XXXXX | | | | |
| | | 2000 | XXXXX | | XXXXX | | | | |
| 3329919049-Roller bearing parts & components {except rollers} for other roller bearings | 2953 | 2002 | XXXXX | | XXXXX | | | | |
| | | 2001 | XXXXX | | XXXXX | | | | |
| | | 2000 | XXXXX | | XXXXX | | | | |
| 3329919059-Housings and parts & components for housings, {see manual for inclusions} | 2959 | 2002 | XXXXX | | XXXXX | | | | |
| | | 2001 | XXXXX | | XXXXX | | | | |
| | | 2000 | XXXXX | | XXXXX | | | | |
| 3329919000-Total, parts and components for ball and roller bearings {sum of codes 2911-2959} | 2999 | 2002 | XXXXX | | XXXXX | | | | |
| | | 2001 | XXXXX | | XXXXX | | | | |
| | | 2000 | XXXXX | | XXXXX | | | | |
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DEFINITIONS AND SPECIAL INSTRUCTIONS

1. Scope of Survey

This survey covers all companies engaged in the manufacture of complete antifriction bearings and components, including balls and rollers, in the United States. Plain bearings are not collected on this survey.

2. Figures to be reported

Companies with more than one establishment manufacturing the products covered by this survey are requested to complete a separate report form for each location. If you have not received a separate form for each of your establishments, please call the contact listed on the report form or write to the U.S. Census Bureau for additional forms.

a. Quantity and value of shipments

The figures on quantity and value of shipments should include the physical shipments of all products sold, transferred to other establishments within your company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customers or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to your own branches should be assigned the same value as comparable sales to unaffiliated customers; i.e., the value includes an appropriate allocation of company overhead and profit. Products bought and resold without further manufacture should not be included in shipments.

b. Columnar structure of report

When posting your figures to the original report, please be sure to report information in the correct columns. These are:

Column 1 — Quantity of shipments (domestic and export)

Column 2 — Value of shipments (\$1,000) (domestic and export)

Column 3 — Quantity produced for all purposes includes total quantity of balls and rollers produced in thousands of units, whether shipped or produced and consumed at the same establishment.

3. Definitions

ANTIFRICTION BEARINGS — Bearings using rolling elements, i.e., balls or rollers. Plain bearings, i.e., those with no rolling elements, are not to be included.

BALL BEARINGS, COMPLETE, UNMOUNTED — Antifriction bearings using balls as rolling elements.

Annular ball bearings — Antifriction bearings primarily designed to support load perpendicular to shaft axis. More commonly called "radial" ball bearings.

Ground or precision ball bearings — Excludes all unground ball bearings.

Single-Row Conrad Ball Bearings — Deep groove ball bearings with only one row of balls and a cage (i.e., retainer, separator). Included are all standard and special types, all inner race configurations (extended, wide, etc.) and all outer race configurations (spherical O.D., cylindrical O.D., wide, etc.)

MINIATURE BALL BEARINGS — Ball bearings with outside diameter below, but not including, 3/8" or 9mm O.D.

ABEC 1 and ABEC 3 — The "regular" standards of ground ball bearings precision. (item code 2101)

ABEC 5 and up — The higher, or "precision" standards of ground ball bearings precision. (item code 2102)

Single-row maximum capacity type distinguished from the conrad type by a filling slot in both outer and inner rings which allows the bearings to contain a greater number of larger balls than the corresponding conrad bearings without filling slots. Also known as "max" type or "full complement" or "filling slot" ball bearings. (item code 2114)

Integral shaft and integral spindle ball bearings — Have a solid inner race, i.e., a shaft, which has the ball raceway(s) ground into the shaft surface, thus making the inner race/shaft integral to the bearings. Examples include, but are not restricted to, water pump bearings, some automotive hub units, and computer spindle bearings. (item code 2118)

Double row ball bearings — Unitary bearings with two rows of balls. Includes both angular contact and deep groove types, and both conrad and max types. All ABEC 1 and up

3. Definitions — Continued

of all standard and special configurations are to be included, but self-aligning double row ball bearings should not be included. (item code 2120)

Angular contact ball bearings — Have a single row of balls whose internal clearances and ball race locations are such as to result in a definite contact angle and predetermined relationship of inner to outer ring faces. All standard and special configurations and all ABEC 1 and up precisions are included. (item codes 2121 and 2123)

All other ground or precision bearings (ABEC 1 and up) — This category should include only those ground ball bearings, etc., which cannot be classified above. (item code 2124)

Ground ball bearings of less than ABEC 1 precision — All types of radial (single-row, double-row, angular contact, other) ball bearings which have ground raceways but are less than the ABEC 1 precision grade. (item code 2126)

Unground (less than ABEC 1) — Antifriction ball bearings with unground raceways. All radial types, styles and configurations should be included. (item code 2128)

Thrust ball bearings — Concentric axial loading only, both ground (less than ABEC 1 and up) and unground types, of all configurations. Both single direction thrust and double direction thrust ball bearings are to be included. Do not include angular contact bearings. (item codes 2133 and 2135)

Linear ball bearings — Ball bearings designed for linear relative motion between its raceways in the direction of rolling.

Other ball bearings — Those which do not qualify under any of the previous categories. This category should only include those bearings which cannot be classified above. (item code 2155)

Tapered roller bearings, including cups and cones, unmounted — Antifriction bearings using taper-shaped rollers as rolling elements.

Cup and cone assemblies shipped as a set — This is a complete tapered roller bearing, which includes the cup and cone and roller assembly, each of which may be sold separately. (item code 2232)

Cups shipped separately — Tapered bearing outer races. (item code 2233)

Cone assemblies shipped separately — Tapered bearing inner race, with cage and rollers. (item code 2234)

Cylindrical roller bearings — Antifriction bearings using cylindrical shaped rollers as the rolling elements. Axes of rollers are parallel to the bearing axis. Regular (ABEC 1 and 3) and precision (ABEC 5 and up) are reported separately, but within each category all types and configurations should be included; single-row and multi-row, radial and thrust, traction motor, journal, aeroengine, and others, except those classified as needle roller bearings, as defined below. (item codes 2311 and 2312)

Spherical roller bearings — Self-aligning antifriction bearings using convex (spherical, or barrel-shaped or concave hourglass shaped) rollers as the rolling elements. Within each category of single-row and double-row types, all configurations of radial and thrust, and all precisions should be included: geared outer, spherangular, air frame, and all other similar types. (item codes 2324 and 2325)

Needle roller bearings — Antifriction bearings using “needle” rollers as the rolling elements. Needle rollers are cylindrical shaped but are long and slim, with a uniform diameter not exceeding 5mm and having a length of at least three times the diameter. The ends of the rollers may be of several shapes. (item code 2341)

Linear roller bearings — Roller bearings designed for linear relative motion between its raceways in the direction of rolling. (item code 2351)

Other roller bearings, n.e.c. — This category should only include those roller bearings not classified above. (item code 2393)

Mounted bearings (except plain) — Antifriction ball or roller bearings which are encased (mounted) in an enclosure (a mounting, or housing, or housing closure) usually made of iron, steel, or rubber. The enclosure, or housing, may be of a one-piece unit or two-piece (split) construction. Major types included are pillow blocks, flange units, takeup units, rubber tired bearings, and any other types of mounted bearings. Loose bearing inserts sold separately are not to be included here, but should be included in appropriate bearing categories above. (item codes 2417–2455)

Parts and components for ball and roller bearings (except cups and cones) including balls and rollers sold separately — as described in the following:

Balls — Ball bearing type steel balls of all grades

3. Definitions — Continued

Shipments — Should include the physical shipments of all products sold, transferred to other establishments within your company, or shipped on consignment, whether for domestic or export sale.

Production — For all purposes, both for internal production of bearings or other products, and for external shipments, (item code 2911)

Other antifriction ball bearing component and parts, including unassembled ball bearings, cages, races, seals, shields, etc. No bearings are to be placed in this category. (item code 2921)

Rollers — Roller bearing typed steel rollers of all grades

Shipments — Should include the physical shipments of all products sold, transferred to other establishments within your company, or shipped on consignment, whether for domestic or export sale.

Production — For all purposes, both for internal production of bearings and other products, and for external shipments. (item code 2931)






Other roller bearing parts and components, (except rollers) Examples include, but are not restricted to seals and shields. Also, no bearings are to be placed in this category. (item codes 2942–2953)

Housings and parts and components for housings — Includes housing closures, collars, spacers, sleeves, adapters, and other miscellaneous items. (item code 2959)

NOTE: Bearing types such as rod ends and cam followers/ track rollers should be placed in the appropriate bearing category such as single row deep groove conrad type, spherical roller, cylindrical roller, etc.

4. Comparability

If you also report in the Annual Survey of Manufactures (Form MA-10000), the sum of values for item codes shown in column (a) should correspond to the dollar values reported under product class codes indicated in column (b) below:

| Current Industrial Reports (Form MA332Q) | Annual Survey of Manufactures |
|---|---|
| Item codes (a) | Product class codes (b) |
| 2101 through 2155 | 3329911  |
| 2232 through 2234 | 3329913  |
| 2311 through 2393 | 3329915  |
| 2417 through 2455 | 3329917  |
| 2911 through 2959 | 3329919  |

REFERENCE LIST — Continued

| FORM MA332Q | | |
|--|-------------|--|
| ANTIFRICTION BEARINGS (SHIPMENTS) | | |
| Product code | Item code | Item description |
| | | BALL BEARINGS, COMPLETE, UNMOUNTED |
| | | Annular, include self-aligning |
| | | Ground or precision |
| | | Single-row conrad |
| | | Miniature (below 9mm. O.D.) |
| 3329911101 | 2101 | Regular (ABEC 1 and 3) |
| 3329911102 | 2102 | Precision (ABEC 5 and up) |
| | | Other regular (ABEC 1 and 3) |
| 3329911103 | 2103 | 9mm. O.D. thru 30mm. O.D. |
| 3329911104 | 2104 | Over 30mm. O.D. thru 52mm. O.D. |
| 3329911105 | 2105 | Over 52mm. O.D. thru 100mm. O.D. |
| 3329911107 | 2107 | Over 100 mm. O. D. |
| | | Other Precision (ABEC 5 and up) |
| 3329911109 | 2109 | 9mm. O.D. thru 30mm. O.D. |
| 3329911111 | 2111 | Over 30mm. O.D. thru 52mm. O.D. |
| 3329911112 | 2112 | Over 52mm. O.D. thru 100mm. O.D. |
| 3329911113 | 2113 | Over 100 mm. O. D. |
| 3329911114 | 2114 | Single-row maximum capacity type |
| 3329911118 | 2118 | Integral shaft and integral spindle ball bearings |
| 3329911120 | 2120 | Double-row |
| | | Angular contact |
| 3329911119 | 2121 | Regular |
| 3329911123 | 2123 | Precision |
| 3329911124 | 2124 | All other ground or precision bearings (ABEC 1 and up) |
| 3329911127 | 2126 | Ground bearings of less than ABEC 1 precision |
| 3329911129 | 2128 | Unground (less than ABEC 1) |
| | | Thrust ball bearings |
| 3329911133 | 2133 | Ground |
| 3329911135 | 2135 | Unground |
| 3329911155 | 2155 | Other ball bearings |
| 3329911100 | 2199 | TOTAL, complete, unmounted ball bearings (Sum of item codes 2101–2155) |
| | | TAPERED ROLLER BEARINGS, INCLUDING CUPS AND CONES, UNMOUNTED |
| 3329913132 | 2232 | Cup and cone assemblies shipped as a set |
| 3329913133 | 2233 | Cups shipped separately |
| 3329913134 | 2234 | Cone assemblies shipped separately |
| 3329913100 | 2299 | TOTAL, tapered roller bearings, including cups and cones, unmounted (Sum of item codes 2232–2234) |

REFERENCE LIST — Continued

| FORM MA332Q | | |
|--------------------|-------------|---|
| Product code | Item code | Item description |
| | | ROLLER BEARINGS (EXCEPT TAPERED), UNMOUNTED |
| 3329915111 | 2311 | Cylindrical roller bearings |
| 3329915112 | 2312 | Regular (ABEC 1 and 3) Precision (ABEC 5 and up) |
| | | Spherical roller bearings, including hourglass and barrel |
| 3329915124 | 2324 | Single-row |
| 3329915125 | 2325 | Double-row |
| 3329915141 | 2341 | Needle roller bearings |
| 3329915193 | 2393 | Other roller bearings, n.e.c. |
| 3329915100 | 2399 | TOTAL, roller bearings, (except tapered), unmounted (Sum of item codes 2311–2393) |
| | | MOUNTED BEARINGS (EXCEPT PLAIN) |
| 3329917117 | 2417 | Ball bearings, unit and/or split mounted |
| | | Roller |
| 3329917153 | 2453 | Unit-mounted |
| 3329917155 | 2455 | Split-mounted |
| 3329917100 | 2499 | TOTAL, mounted bearings (except plain) (Sum of item codes 2417–2455) |
| | | PARTS AND COMPONENTS FOR BALL AND ROLLER BEARINGS (EXCEPT CUPS AND CONES), INCLUDING BALLS AND ROLLERS SOLD SEPARATELY |
| 3329919111 | 2911 | Balls (thousands of units) |
| 3329919121 | 2921 | Other antifriction ball bearing components and parts, including unassembled ball bearings, cages, races, seals, shields, etc. (except balls) |
| 3329919131 | 2931 | Rollers (thousands of units) |
| | | Other roller bearing parts and components (except rollers) |
| 3329919135 | 2942 | For tapered roller bearings (except cup and cone assemblies) |
| 3329919136 | 2944 | For cylindrical roller bearings |
| 3329919137 | 2946 | For spherical roller bearings |
| 3329919149 | 2953 | For other roller bearings |
| 3329919159 | 2959 | Housings and parts and components for housings, including housing closures, collars, spacers, sleeves, adapters, and other miscellaneous items |
| 3329919100 | 2999 | TOTAL, parts and components for ball and roller bearing (except cups and cones), including balls and rollers sold separately (Sum of item codes 2911–2959) |

12/11/02